

# The Hardest Working River in the West: Common-Sense Solutions for a Reliable Water Future for the Colorado River Basin

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### **About American Rivers**

American Rivers protects wild rivers, restores damaged rivers, and conserves clean water for people and nature. Since 1973, American Rivers has protected and restored more than 150,000 miles of rivers through advocacy efforts, on-the-ground projects, and an annual America's Most Endangered Rivers® campaign. Headquartered in Washington, DC, American Rivers has offices across the country and more than 200,000 members, supporters, and volunteers.

Rivers connect us to each other, nature, and future generations. Find your connections at [AmericanRivers.org](http://AmericanRivers.org), [Facebook.com/AmericanRivers](https://www.facebook.com/AmericanRivers), and [Twitter.com/AmericanRivers](https://twitter.com/AmericanRivers).



### **About Western Resource Advocates**

For the last 25 years Western Resource Advocates has been the West's premier group of experts protecting the region's air, land and water. WRA's pragmatic team of lawyers, scientists and economists craft innovative solutions for the most complex natural resource challenges in the region. WRA shapes a clean energy future that reduces pollution, protects our unique western lands, and addresses climate change. The organization restores degraded rivers and champions solutions to ensure a reliable water future.

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## **The Hardest Working River in the West: Common-Sense Solutions for a Reliable Water Future for the Colorado River Basin**

THE MAJESTIC COLORADO RIVER cuts a 1,450-mile path through the American West before drying up well short of its natural finish line at the Gulf of California. Reservoirs once filled to the brim from the river and its tributaries are at historic lows due to an unprecedented drought and growing human demands. Diminished stream flows now pose serious challenges for wildlife and recreation, as well as cities, farms, and others who rely upon the river.

Steps currently being taken to improve the situation are not up to the task of bringing the river system back into balance and providing a reliable water supply for all the communities who depend upon the Colorado River. Fortunately, we have five feasible, affordable, common-sense solutions that can be implemented now to protect the flow of the river, ensure greater economic vitality, and secure water resources for millions of Americans.

### **A supply and demand imbalance on the river**

THE FACTS ARE CLEAR: **the demand for water from the Colorado River exceeds the supply.** By 2060, we can expect a 3.8 million acre-foot\* deficit in river supply. To put that in perspective, one acre-foot is about how much water 2-3 American families use each year. Coming up short could put 36 million people's drinking water, agriculture, future economic growth and the \$26.4 billion outdoor recreational economy and put a quarter-million jobs in jeopardy.

In addition, the river's imbalance is wreaking havoc on the West's natural ecosystems, harming world-class fisheries and unique natural wonders. The ripple effect goes even further, and will impact everything from cost of vegetables to the eroding economic base for the hundreds of communities along the banks of the river, and the entire Western United States.

What's driving the supply and demand imbalance? Demand is increasing because of the skyrocketing population growth in the Colorado River basin's seven states: Arizona, California, Colorado, Nevada, New Mexico, Utah and Wyoming. Supply is dwindling because of a downward trend of less runoff from rain and snowmelt.

The Colorado River, which flows from the Rockies to southern Arizona, is being exhausted by a 14-year drought, unprecedented in the last 1,000 years.

Applying strategies to correct this supply and demand imbalance is necessary today, or millions of people in both rural and urban communities will face serious water shortages affecting economic development, essential agricultural economies and the region's recreation and tourism businesses. In addition, if there is less water in the Colorado River, its natural habitats will be degraded and several bird, plant and fish species could lose their habitats. Finally, any hopes of restoring flows to the Colorado River's Delta near the Gulf of California would be lost. Imagine, we might again have the Colorado River flowing all the way to the sea, something that has only happened twice in the last half a century.

### **Common-Sense Solutions Meet Current Challenges**

MORE THAN 82 PERCENT OF WESTERNERS AGREE **that low water levels in the Colorado River are a serious problem, according to a February 2014 regional poll.** However, there is no single solution—or magic infrastructure project—that will produce enough water to overcome the imbalance of supply and demand. A fresh approach with a suite of measures that fits our contemporary reality is required, and this will necessitate updating antiquated water laws and addressing entrenched approaches to water management.

For a century, federal and state governments proactively facilitated the export of water from the Colorado River to settle and develop the West. Now, the era of “free water” is over. **Emerging water needs can't be addressed as they were in the past by simply diverting more water from the Colorado River and its tributaries, since those resources are drying up.** Furthermore, proposals to augment our supply by piping in water from another river

basin or the ocean are unrealistic and often carry huge price tags, regulatory and jurisdictional impediments, as well as negative environmental impacts. Instead, policymakers must focus on becoming smarter and more flexible with our existing water resources.

**The right changes now will produce more water and save more money.**

Several solutions—which can be implemented soon and with realistic investments—will dramatically meet our current and future needs. Other changes requiring more commitment and cooperation are being implemented by some local governments in the West. Combined, these steps can provide big returns—up to 4.4 million acre-feet, or a surplus of 600,000 acre-feet of water for the basin’s economic and environmental future.

There are some good real world examples to follow, including how agencies delivering water in Southern California actually delivered four percent less water in 2008 than in 1990, despite delivering water to almost 3.6 million more people.

**Five Affordable Solutions To Ensure A Reliable Water Future**

THESE FIVE SOLUTIONS BELOW can help improve the health of the Colorado River, grow the economies of the seven basin states, and protect essential western natural habitats.

1. **Municipal conservation, saving 1 million acre-feet**—Water efficiency programs have worked time and again, and represent the lowest cost and greatest business benefits; they sometimes cost five to 10 times less than structural projects. Conservation can happen without infringing on consumers and businesses; instead conservation can occur through improved landscaping techniques, rebate programs that incentivize water-saving devices, installing new appliances and fixtures. In addition, standardized water audits across municipalities routinely result in dramatic savings.
2. **Municipal reuse, saving 1.2 million acre-feet**—Wastewater and gray water can be treated for potable use, and reused for irrigation, industrial

processing and cooling, dust control, artificial lakes and replenishing groundwater supply. Rainwater harvesting using innovative new technologies is a simple additional step.

3. **Agricultural efficiency and water banking, saving 1 million acre-feet**—Agriculture is the river’s largest water use, extending across 5.7 million acres of arid western land and consuming more than 70 percent of the river’s water. But water shortages will soon inevitably impact the agricultural economy and farmers’ livelihood. Voluntarily irrigation efficiency, regulated irrigation, rotational fallowing, crop shifting and innovative irrigation technologies are concepts that many farmers already are using. In addition, water banking is a market-based approach that allows farmers (and others) to bank their unused water voluntarily.
4. **Clean, water-efficient energy supplies, saving 160 thousand acre-feet**—Generating enough energy for the area’s population requires a significant amount of water, particularly to cool down thermoelectric power generation. To reduce the need for water to cool thermoelectric power plants, Colorado River basin states can continue to pursue energy efficiency and renewable sources of energy like wind, solar photovoltaics, and geothermal, which require little or no water. And new fossil plants can use waste water for cooling or air-cooled towers to save water-technologies already adopted by power plants in Colorado River Basin states.
5. **Innovative water opportunities, generating up to 1 million acre-feet**—Inland desalination in certain areas with brackish groundwater and surface water is a viable option to stretch water supplies, potentially generating 620,000 acre-feet of water. In addition, dust-on-snow management can help save a minimum of 400,000 acre-feet of water. Finally, tamarisk is an invasive plant that hoards water along the river. Removing dense invasive plants in upland areas will save a minimum of 30,000 acre-feet of water.

### **Proven Solutions, Progress We Can See**

FEDERAL, STATE AND LOCAL OFFICIALS can help make most these changes today, and start reaping many benefits within a year or two. A few solutions

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will require longer-term collaboration among governments and users, sometimes a rarity in today's national political and economic climates. Yet, Colorado River basin states and the U.S. Bureau of Reclamation have a solid record of increased cooperation over the last two decades. What's more, many basin states are already taking steps to update their state water plans with innovative, creative ideas for improving water management.

The common-sense and money-saving approaches outlined here are the best path forward. We've already seen strong progress; dozens of successful programs have already been implemented. From citywide conservation efforts to innovative rainwater capture, to successful and mutually beneficial agricultural solutions, we know these work. What's more, we know they are the most efficient, cost-effective, widely available steps we can take right now to solve our supply/demand gap on the Colorado River without doing any harm, while continuing to grow our western economy.

Find out more at [ColoradoRiverSolutions.org](http://ColoradoRiverSolutions.org)

\*One acre-foot of water equals the amount of water that covers one acre of land to a depth of one foot, or 326,000 gallons.

